SUMMIT ACADEMY (PWS 2250140)
SOURCE WATER ASSESSMENT FINAL REPORT

April 22, 2005

State of Idaho
Department of Environmental Quality

Executive Summary

Under the Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency (EPA) to assess every source of public drinking water for its relative sensitivity to contaminants regulated by the act. This assessment is based on a land use inventory of this designated assessment area, sensitivity factors associated with the wells, and aquifer characteristics.

This report, *Source Water Assessment for Summit Academy (PWS #2250140)*, describes the public drinking water system, the boundaries of the zones of water contribution, and the associated potential contaminant sources located within these boundaries. This assessment should be used as a planning tool, taken into account with local knowledge and concerns, to develop and implement appropriate protection measures for this source. **The results should <u>not be</u> used as an absolute measure of risk and they should <u>not be</u> used to undermine public confidence in the water system.**

Final susceptibility scores are derived from equally weighting system construction scores, hydrologic sensitivity scores, and potential contaminant/land use scores. Therefore, a low rating in one or two categories coupled with a higher rating in other categories results in a final rating of low, moderate, or high susceptibility. With the potential contaminants associated with most urban and heavily agricultural areas, usually the best score a well can get is moderate. Potential contaminants are divided into four categories, inorganic contaminants (IOCs, e.g. nitrates, arsenic), volatile organic contaminants (VOCs, e.g. petroleum products), synthetic organic contaminants (SOCs, e.g. pesticides), and microbial contaminants (e.g. bacteria). As different wells can be subject to various contamination settings, separate scores are given for each type of contaminant.

The Summit Academy school drinking water system consists of one well. The Summit Academy school is located in the northern portion of the town of Cottonwood, Idaho, approximately 10 miles northwest of the town of Grangeville, Idaho. The ground water well currently serves potable water to the occupants of the school.

In terms of total susceptibility, the well rated low for IOCs, and low for VOCs, SOCs, and microbial contaminants. Hydrologic sensitivity rated low, while system construction rated moderate mostly due to the fact that a sanitary survey has not been completed on the well as of yet. Land use rated low for VOCs, SOCs, and microbial contaminants. Land use rated moderate for IOCs as a result of the well being located in a nitrate priority area.

This assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what ranking a source receives, protection is always important. Whether the source is currently located in a "pristine" area or an area with numerous industrial and/or agricultural land uses that require education and surveillance, the way to ensure good water quality in the future is to act now to protect valuable water supply resources. If the system should need to expand in the future, new well or spring sites should be located in area with as few potential sources of contamination as possible, and the site should be reserved and protected for this specific use.

For the Summit Academy, once a sanitary survey is completed for the system, drinking water protection activities should focus on maintaining the requirements of the sanitary survey (an inspection conducted every five years with the purpose of determining the physical condition of a water system's components and its capacity). Any spills from any future potential contaminant sources should be carefully monitored, as should any future development in the delineated areas. In addition, drinking water protection activities should focus on implementation of practices aimed at reducing the leaching of agricultural chemicals from agricultural land within the designated source water areas. Most of the designated areas are outside the direct jurisdiction of the Summit Academy water system. Partnerships with state and local agencies and industry groups should be established and are critical to success.

Due to the time involved with the movement of ground water, drinking water protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term. For assistance in developing protection strategies please contact the Lewiston Regional Office of the Idaho Department of Environmental Quality or the Idaho Rural Water Association.

A community must incorporate a variety of strategies in order to develop a comprehensive drinking water protection plan, be they regulatory in nature (i.e. zoning, permitting or not-regulatory in nature (i.e. good housekeeping, public education, and specific best management practices). For assistance in developing protection strategies please contact the Lewiston Regional Office of the Idaho Department of Environmental Quality of the Idaho Rural Water Association.

SOURCE WATER ASSESSMENT FOR SUMMIT ACADEMY, COTTONWOOD, IDAHO

Section 1. Introduction - Basis for Assessment

The following sections contain information necessary to understand how and why this assessment was conducted. **It is important to review this information to understand what the ranking of this source means.** A map showing the delineated source water assessment area and the inventory of significant potential sources of contamination identified within that area are included (Figure 2, Table 1). The list of significant potential contaminant source categories and their rankings used to develop this assessment is also attached.

Level of Accuracy and Purpose of the Assessment

The Idaho Department of Environmental Quality (DEQ) is required by the U.S. Environmental Protection Agency (EPA) to assess the over 2,900 public drinking water sources in Idaho for their relative susceptibility to contaminants regulated by the Safe Drinking Water Act. This assessment is based on a land use inventory of the delineated assessment area, sensitivity factors associated with the wells, and aquifer characteristics. All assessments for sources active prior to 1999 were completed by May of 2003. SWAs for sources activated post-1999 are being developed on a case-by-case basis. The resources and time available to accomplish assessments are limited. Therefore, an in-depth, site-specific investigation to identify each significant potential source of contamination for every public water system is not possible. **Therefore, this assessment should be used as a planning tool, taken into account with local knowledge and concerns, to develop and implement appropriate protection measures for this source. The results should <u>not be</u> used as an absolute measure of risk and they should <u>not be</u> used to undermine public confidence in the water system.**

The ultimate goal of the assessment is to provide data to local communities to develop a protection strategy for their drinking water supply system. DEQ recognizes that pollution prevention activities generally require less time and money to implement than treatment of a public water supply system once it has been contaminated. DEQ encourages communities to balance resource protection with economic growth and development. The decision as to the amount and types of information necessary to develop a source water protection program should be determined by the local community based on its own needs and limitations. Source water protection is one facet of a comprehensive growth plan, and it can complement ongoing local planning efforts.

Section 2. Conducting the Assessment

General Description of the Source Water Quality

The Summit Academy school drinking water system consists of one well. The Summit Academy school is located in the northern portion of the town of Cottonwood, Idaho, approximately 10 miles northwest of the town of Grangeville, Idaho. The ground water well currently serves potable water to the occupants of the school.

The most significant potential drinking water problem is the location of the Summit Academy school in the Camas Prairie nitrate priority area. The fact that the well exists in a nitrate priority area, raises concern for potential detections in the IOC, nitrate. The maximum contaminant level (MCL) for nitrate is 10 mg/l. When nitrate concentrations in the drinking water reach this level, associated potential health risks can occur.

Defining the Zones of Contribution--Delineation

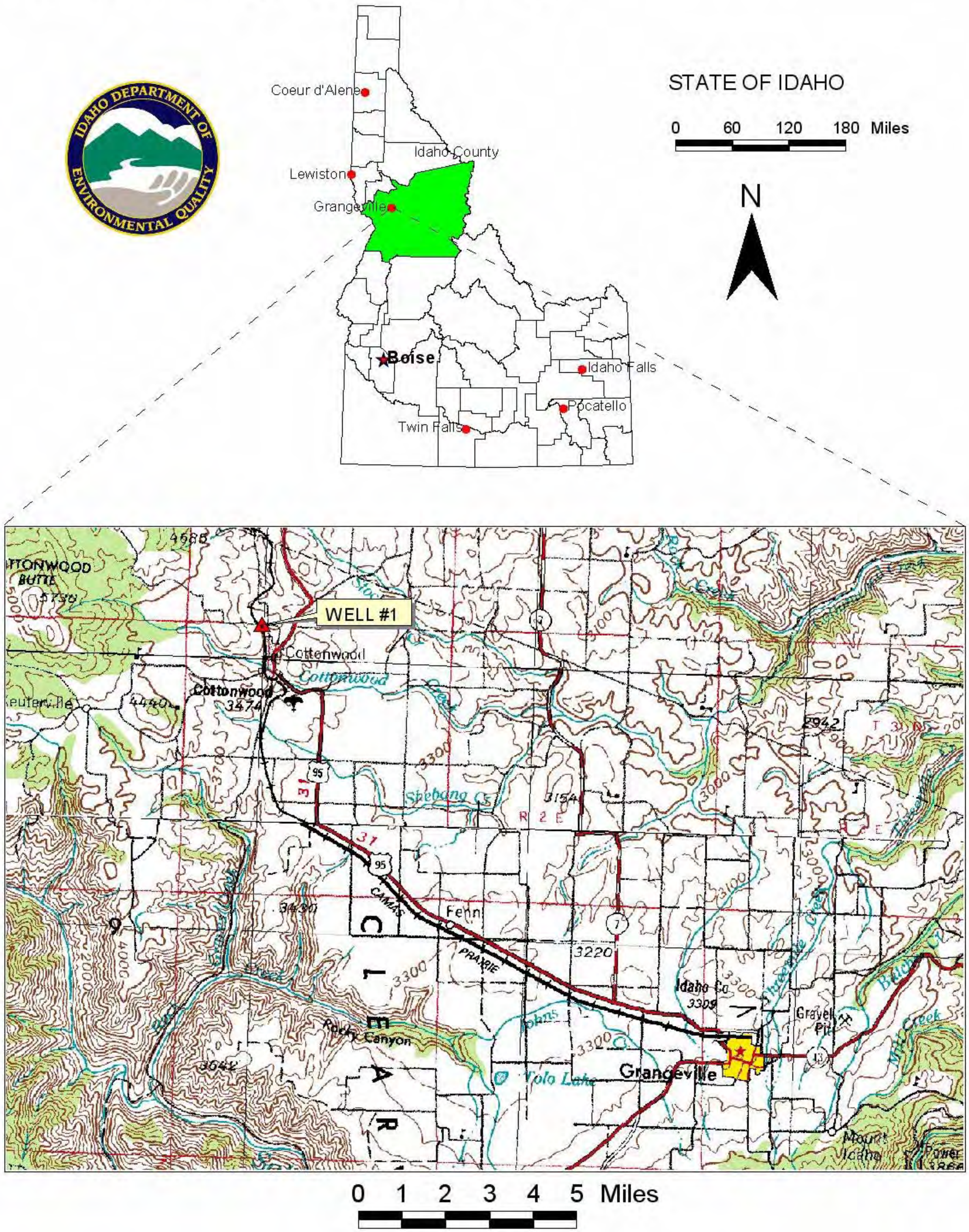
The delineation process establishes the physical area around a well that will become the focal point of the assessment. The process includes mapping the boundaries of the zone of contribution into time of travel zones (zones indicating the number of years necessary for a particle of water to reach a well) for water in the aquifer. DEQ used a refined computer model approved by the EPA in determining the 3-year (Zone 1B), 6-year (Zone 2), and 10-year (Zone 3) time-of-travel (TOT) for water associated with the Clearwater Uplands aquifer in the vicinity of the Summit Academy drinking water system. The computer model used site specific data, assimilated by DEQ from a variety of sources including the Summit Academy well log and other local area well logs, and hydrogeologic reports summarized below. The actual data used by DEQ in determining the source water assessment delineation area are available upon request.

Hydrogeologic Setting

The Summit Academy school provides potable water to the occupants of the school through a ground water well. The conceptual hydrogeologic model for the Summit Academy school, Well #1, is based on interpretation of available well logs and published geologic maps. The purpose of this study is to delineate the source water protection area for the well that provides water to this source. This well currently does not have an established protection area for their water source. The delineation of the source water protection area will be modeled using the WhAEM Model 2000, version 1.0.4.

The well is completed in the Columbia River Basalt Group (CRBG) to a depth of 650 feet. The basalts of the CRBG regionally compose the Clearwater Plateau through a series of discontinuous basalt flows. Within the study area, the Wanapum, and Saddle Mountain formations overlie the Grande Ronde formation, which makes up the vast majority of the basalt in the area (Stevens et. al, 2003.). Adjacent to the basalt flows are isolated exposed ridges of basement rocks. The basement rocks are made up of the granitoids and metasedimentary rocks.

FIGURE 1 Site Vicinity Map of Summit Academy



The basalts of the CRBG form the primary aquifers of the region. These aquifers are generally very heterogeneous in nature and laterally unpredictable. Due to the nature of the aquifers forming from fracture zones and weathered areas, the continuity of the aquifers is difficult to define. On a regional scale, the ground water recharges the uplands on the Clearwater Plateau and discharges into the Clearwater or Salmon River. The regional scale of this system is not investigated for this study, as flow paths through this system could be too long to model. Therefore, the local hydrogeologic system is being investigated and incorporated into the model.

The source well is drilled entirely into the CRBG. The basalts and their associated interbeds have undergone regional metamorphism and have been faulted and folded. Several folds and faults have been mapped in the surrounding area by Stevens, et. al (2003). The relationship between these features and the local ground water flow is still unknown. Contacts to the basement rocks have also been mapped in the near vicinity of the well. These basement rocks formed of granites and metamorphic rocks are considered an impermeable boundary to lateral ground water flow.

The producing zone for this particular well was encountered at 580 feet below ground surface. Obtained from the driller's log, this producing zone extends 40 feet to a depth of 620 feet below ground surface. This zone is the primary production zone for this well, based on the information from the well log. Well logs of surrounding wells display similar characteristics with single production zones located at various elevations. Static water levels vary from 160 to 499 feet below ground surface.

The source well was delineated using the WhAEM Model 2000, version 1.0.4. Information required to run the model was obtained through well logs of the source well and surrounding wells, topographic maps, and previous investigations in the area. From these sources, base aquifer elevation, aquifer thickness, and model boundaries could be estimated.

The presented capture zone delineated for this well is a composite of the various runs that were conducted while varying the different aquifer parameters. This capture zone is based on the estimated information obtained from well logs and previous research conducted in the area. The capture zone should be viewed as an estimate of the actual field conditions and could be potentially modified as more information becomes available.

Identifying Potential Sources of Contamination

A potential source of contamination is defined as any facility or activity that stores, uses, or produces, as a product or by-product, the contaminants regulated under the Safe Drinking Water Act and has a sufficient likelihood of releasing such contaminants at levels that could pose a concern relative to drinking water sources. The goal of the inventory process is to locate and describe those facilities, land uses, and environmental conditions that are potential sources of ground water contamination. The locations of potential sources of contamination within the delineation areas were obtained by field surveys conducted by DEQ and from available databases.

Land use within the immediate area and the surrounding area of the Summit Academy source is identified on the PCI as undetermined agriculture. This type of agriculture is mostly dryland farming.

It is important to understand that a release may never occur from a potential source of contamination provided best management practices are used at the facility. Many potential sources of contamination are regulated at the federal level, state level, or both to reduce the risk of release. Therefore, when a business, facility, or property is identified as a potential contaminant source, this should not be interpreted to mean that this business, facility, or property is in violation of any local, state, or federal environmental law or regulation. What it does mean is that the potential for contamination exists due to the nature of the business, industry, or operation. There are a number of methods that water systems can use to work cooperatively with potential sources of contamination, such as educational visits and inspections of stored materials. Many owners of such facilities may not even be aware that they are located near a public water supply well.

Contaminant Source Inventory Process

A contaminant inventory of the study area was conducted during October 2003. The inventory involved identifying and documenting potential contaminant sources within the Summit Academy Source Water Assessment Area through the use of computer databases and Geographic Information System maps developed by DEQ (Figures 2, and Table 1). An enhanced contaminant inventory was conducted in November 2004 in which the system operator was allowed to review the potential contaminant inventory conducted by DEQ. No additional potential contaminant sources were identified by the system operator.

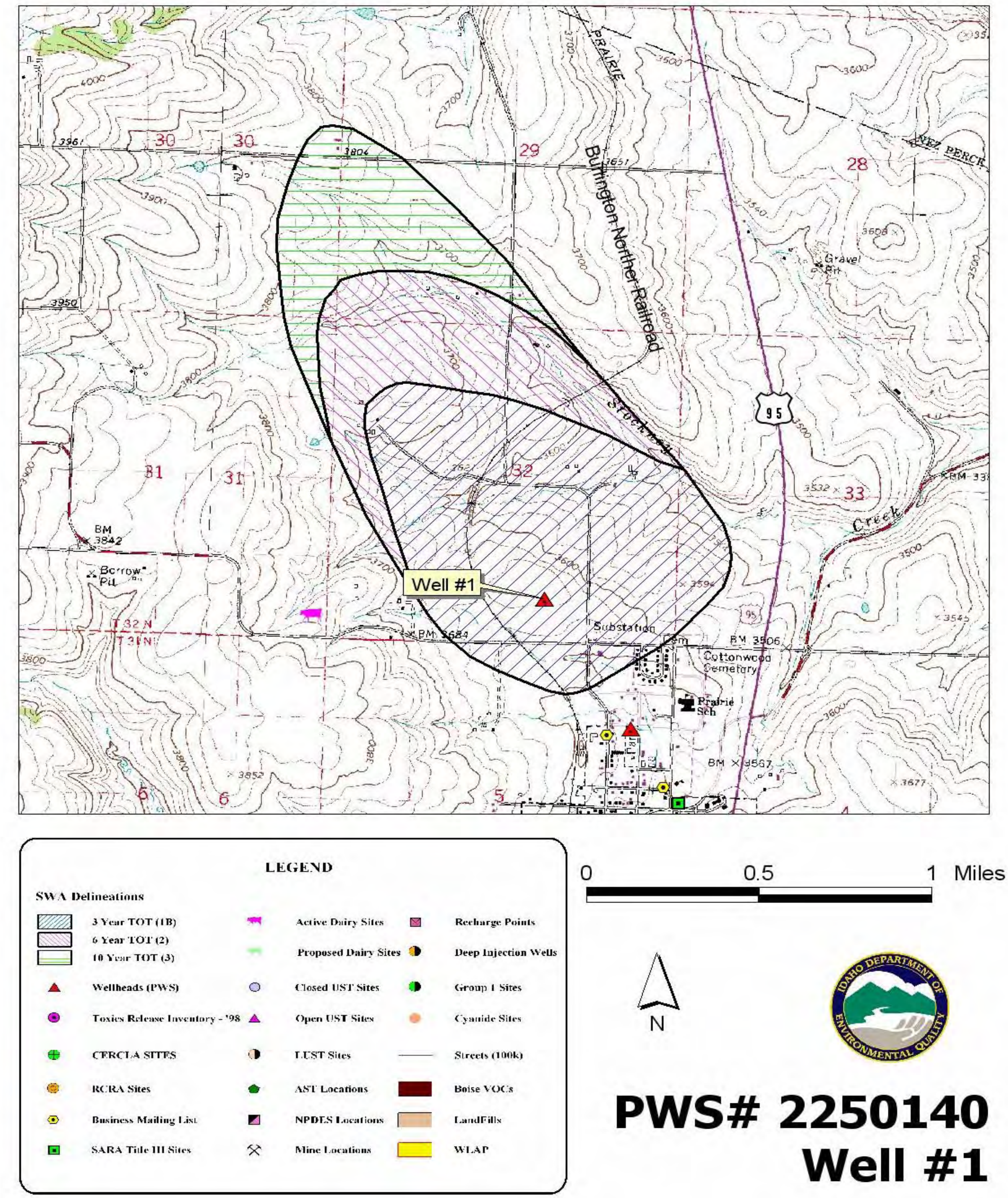
The delineated source water assessment area of the Summit Academy well does not contain any identified point sources, however, a railroad, local road, stream, and agricultural fields intersect the delineation. These sources can contribute leachable contaminants to the aquifer in the event of an accidental spill, release, or flood. The Summit Academy well is also located in a known nitrate priority area. However based on the susceptibility analysis, the overall susceptibility for the well is rated as low for all classes of contaminants.

Table 1. Summit Academy, Potential Contaminant/Land Use Inventory

SITE	Source Description	TOT Zone[1] (years)	Source of Information	Potential Contaminants[3]
	Agricultural fields	0-10 YR	GIS Map	IOC
	Stream	0-3 YR	GIS Map	Microbials
	Road	0-6 YR	GIS Map	IOC, VOC, SOC
	Railroad	0-10 YR	GIS Map	IOC, VOC, SOC

[1] TOT = time of travel (in years) for a potential contaminant to reach the wellhead
[2] IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical

FIGURE 2. Summit Academy Delineation map & Potential Contaminant Source Locations



Section 3. Susceptibility Analyses

The water system's susceptibility to contamination was ranked as high, moderate, or low risk according to the following considerations: hydrologic characteristics, physical integrity of the well, land use characteristics, and potentially significant contaminant sources. The susceptibility rankings are specific to a particular potential contaminant or category of contaminants. Therefore, a high susceptibility rating relative to one potential contaminant does not mean that the water system is at the same risk for all other potential contaminants. The relative ranking that is derived for each well is a qualitative, screening-level step that, in many cases, uses generalized assumptions and best professional judgement. Attachment A contains the susceptibility analysis worksheets for the system. The following summaries describe the rationale for the susceptibility ranking.

Hydrologic Sensitivity

The hydrologic sensitivity of a well is dependent upon four factors: the surface soil composition, the material in the vadose zone (between the land surface and the water table), the depth to first ground water, and the presence of a 50-foot thick fine-grained zone above the producing zone of the well. Slowly draining soils such as silt and clay typically are more protective of ground water than coarse-grained soils such as sand and gravel. Similarly, fine-grained sediments in the subsurface and a water depth of more than 300 feet protect the ground water from contamination.

Hydrologic sensitivity was low for the well (see Table 2). This reflects the nature of the ground water existing at a depth greater than 300 feet bgs, and the presence of a 50-foot thick aquitard to impede the downward migration of surface contaminants. The nature of the soils being poorly to moderately well drained soils and the vadose zone being composed of clay and gravels also contributed to the final scoring of the hydrologic sensitivity of the well.

Well Construction

Well construction directly affects the ability of the well to protect the aquifer from contaminants. System construction scores are reduced when information shows that potential contaminants will have a more difficult time reaching the intake of the well. Lower scores imply a system is less vulnerable to contamination. For example, if the well casing and annular seal both extend into a low permeability unit, then the possibility of contamination is reduced and the system construction score goes down. If the highest production interval is more than 100 feet below the water table, then the system is considered to have better buffering capacity. If the wellhead and surface seal are maintained to standards, as outlined in sanitary surveys, then contamination down the well bore is less likely. If the well is protected from surface flooding and is outside the 100-year floodplain, then contamination from surface events is reduced. Presently a sanitary survey has not been conducted for the system.

Summit Academy rated moderate susceptibility for system construction. The well was drilled in 2002 to 650 feet below ground surface (bgs) and a 6-inch steel casing was placed from 2 feet above ground to 21 feet bgs. A 4.5-inch PVC pipe was placed from 10 feet (bgs) to 650 feet (bgs). Perforations were cut between the forty foot interval at a depth of 610 - 650 feet (bgs). The well is rated as moderate due to the fact that a sanitary survey has not been conducted on the well.

The Idaho Department of Water Resources *Well Construction Standards Rules* (1993) require all PWSs to follow DEQ standards as well. IDAPA 58.01.08.550 requires that PWSs follow the *Recommended Standards for Water Works* (1997) during construction. These standards include provisions for well screens, pumping tests, and casing thickness to name a few. Table 1 of the *Recommended Standards for Water Works* (1997) lists the required steel casing thickness for various diameter wells. For example a 6-inch casing requires a 0.280 inch thickness.

Potential Contaminant Source and Land Use

The Summit Academy well rated moderate for IOCs (e.g. nitrates), SOCs (e.g. pesticides), VOCs (e.g. petroleum products) and for microbial contaminants. The low ratings and location of potential contaminant sources within the delineation contributed to the low land use scores.

Final Susceptibility Ranking

An IOC detection above a drinking water standard MCL, any detection of a VOC or SOC, or a detection of total coliform bacteria or ecoli bacteria at the wellhead will automatically give a high susceptibility rating to a well, despite the land use of the area, because a pathway for contamination already exists. Additionally, the storage or application of any potential contaminants within 50 feet of the wellhead will lead to an automatic high score. Hydrologic sensitivity and system construction scores are heavily weighted in the final scores. Having multiple potential contaminant sources in the 0- to 3-year time-of-travel zone (Zone 1B) and much agricultural land contribute greatly to the overall ranking. In terms of contaminant inventory, the Summit Academy well rated moderate for IOCs, and low for VOC, SOC, and microbials (Table 2). In terms of total susceptibility, the well rated low for IOCs, VOCs, SOCs, and microbial contaminants.

Table 2. Summary of Summit Academy Susceptibility Evaluation

Well	Susceptibility Scores[1]									
	Hydrologic Sensitivity	Contaminant Inventory				System Construction	**Final Susceptibility Ranking**			
		IOC	VOC	SOC	Microbials		IOC	VOC	SOC	Microbials
1	L	M	L	L	L	M	L	L	L	L

[1]H = High Susceptibility, M = Moderate Susceptibility, Low Susceptibility
IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical

Susceptibility Summary

System construction rated moderated due to the fact that a sanitary survey has presently not yet been completed on the well, while hydrologic sensitivity rated low for the system. For contaminant inventory, the well rated moderate for IOCs and low for VOCs, SOCs, and microbial contaminants. In terms of total susceptibility, the well rated low for IOCs, VOCs, SOCs, and microbial contaminants.

Section 4. Options for Drinking Water Protection

The susceptibility assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what the susceptibility ranking a source receives, protection is always important. Whether the source is currently located in a “pristine” area or an area with numerous industrial and/or agricultural land uses that require education and surveillance, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

An effective drinking water protection program is tailored to the particular local drinking water protection area. A community with a fully developed drinking water protection program will incorporate many strategies. For the Summit Academy, drinking water protection activities should focus on implementation of practices aimed at reducing the leaching of agricultural chemicals from agricultural land within the designated drinking water areas. The Summit Academy should also be diligent about local businesses that are regulated by the various environmental regulations (RCRA, CERCLA, SARA) or those with potential inorganic contaminants. Most of the designated areas are outside the direct jurisdiction of the Summit Academy. Partnerships with state and local agencies and industry groups should be established and are critical to success of drinking water protection.

Due to the time involved with the movement of ground water, drinking water protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term. A strong public education program should be a primary focus of any drinking water protection plan as the delineations are near urban and residential land use areas. Public education topics could include proper lawn and garden care practices, household hazardous waste disposal methods, proper care and maintenance of septic systems, and the importance of water conservation to name but a few. There are multiple resources available to help communities implement protection programs, including the Drinking Water Academy of the EPA.

A community must incorporate a variety or strategies in order to develop a comprehensive drinking water protection plan, be they regulatory in nature (i.e. zoning, permitting) or non-regulatory in nature (i.e. good housekeeping, public education, specific best management practices). For assistance in developing protection strategies please contact the Lewiston Regional Office of the DEQ or the Idaho Rural Water Association.

Assistance

Public water suppliers and others may call the following DEQ offices with questions about this assessment and to request assistance with developing and implementing a local protection plan. In addition, draft protection plans may be submitted to the DEQ office for preliminary review and comments.

Lewiston Regional DEQ Office	(208) 799-4370
State DEQ Office	(208) 373-0502

Website: http://www.deq.state.id.us

Water suppliers serving fewer than 10,000 persons may contact Ms. Melinda Harper, Idaho Rural Water Association, at 208-343-7001 (harperm@idahoruralwater.com) for assistance with drinking water protection (formerly wellhead protection) strategies.

POTENTIAL CONTAMINANT INVENTORY
LIST OF ACRONYMS AND DEFINITIONS

AST (Aboveground Storage Tanks) – Sites with aboveground storage tanks.

Business Mailing List – This list contains potential contaminant sites identified through a yellow pages database search of standard industry codes (SIC).

CERCLIS – This includes sites considered for listing under the **Comprehensive Environmental Response Compensation and Liability Act (CERCLA)**. CERCLA, more commonly known as ASuperfund≅ is designed to clean up hazardous waste sites that are on the national priority list (NPL).

Cyanide Site – DEQ permitted and known historical sites/facilities using cyanide.

Dairy – Sites included in the primary contaminant source inventory represent those facilities regulated by Idaho State Department of Agriculture (ISDA) and may range from a few head to several thousand head of milking cows.

Deep Injection Well – Injection wells regulated under the Idaho Department of Water Resources generally for the disposal of stormwater runoff or agricultural field drainage.

Enhanced Inventory – Enhanced inventory locations are potential contaminant source sites added by the water system. These can include new sites not captured during the primary contaminant inventory, or corrected locations for sites not properly located during the primary contaminant inventory. Enhanced inventory sites can also include miscellaneous sites added by the Idaho Department of Environmental Quality (DEQ) during the primary contaminant inventory.

Floodplain – This is a coverage of the 100year floodplains.

Group 1 Sites – These are sites that show elevated levels of contaminants and are not within the priority one areas.

Inorganic Priority Area – Priority one areas where greater than 25% of the wells/springs show constituents higher than primary standards or other health standards.

Landfill – Areas of open and closed municipal and non-municipal landfills.

LUST (Leaking Underground Storage Tank) – Potential contaminant source sites associated with leaking underground storage tanks as regulated under RCRA.

Mines and Quarries – Mines and quarries permitted through the Idaho Department of Lands.)

Nitrate Priority Area – Area where greater than 25% of wells/springs show nitrate values above 5mg/l.

NPDES (National Pollutant Discharge Elimination System) – Sites with NPDES permits. The Clean Water Act requires that any discharge of a pollutant to waters of the United States from a point source must be authorized by an NPDES permit.

Organic Priority Areas – These are any areas where greater than 25 % of wells/springs show levels greater than 1% of the primary standard or other health standards.

Recharge Point – This includes active, proposed, and possible recharge sites on the Snake River Plain.

RICRIS – Site regulated under **Resource Conservation Recovery Act (RCRA)**. RCRA is commonly associated with the cradle to grave management approach for generation, storage, and disposal of hazardous wastes.

SARA Tier II (Superfund Amendments and Reauthorization Act Tier II Facilities) – These sites store certain types and amounts of hazardous materials and must be identified under the Community Right to Know Act.

Toxic Release Inventory (TRI) – The toxic release inventory list was developed as part of the Emergency Planning and Community Right to Know (Community Right to Know) Act passed in 1986. The Community Right to Know Act requires the reporting of any release of a chemical found on the TRI list.

UST (Underground Storage Tank) – Potential contaminant source sites associated with underground storage tanks regulated as regulated under RCRA.

Wastewater Land Applications Sites – These are areas where the land application of municipal or industrial wastewater is permitted by DEQ.

Wellheads – These are drinking water well locations regulated under the Safe Drinking Water Act. They are not treated as potential contaminant sources.

NOTE: Many of the potential contaminant sources were located using a geocoding program where mailing addresses are used to locate a facility. Field verification of potential contaminant sources is an important element of an enhanced inventory.

Where possible, a list of potential contaminant sites unable to be located with geocoding will be provided to water systems to determine if the potential contaminant sources are located within the source water assessment area.

References Cited

Great Lakes-Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers, 1997. "Recommended Standards for Water Works."

Idaho Department of Environmental Quality, 1997. Design Standards for Public Drinking Water Systems. IDAPA 58.01.08.550.01.

Idaho Department of Water Resources, 1993. Administrative Rules of the Idaho Water Resource Board: Well Construction Standards Rules. IDAPA 37.03.09.

Stevens, B., Garwood, D., Ralston, D., 2003. Report of the Geologic/Hydrogeologic Services City of Craigmont, Lewis County, Idaho. Idaho Water Resources Research Institute.

Attachment A

Summit Academy
Susceptibility Analysis
Worksheets

The final scores for the **Summit Academy** susceptibility analysis were determined using the following formulas:

1) VOC/SOC/IOC Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.27)

2) Microbial Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.375)

Final Susceptibility Scoring:

0 - 5 Low Susceptibility

6 - 12 Moderate Susceptibility

> 13 High Susceptibility

Ground Water Susceptibility Report	Summit Academy	Public Water System Number: ID2250140			Well #1	12//27/2004
1. System Construction		**Score**				
Drill Date	July 31, 2002					
Driller Log Available	Yes					
Sanitary Survey (if yes, indicate date of last survey)	No					
Well meets IDWR construction standards	Yes	0				
Wellhead and surface seal maintained	No	1				
Casing and annular seal extend to low permeability unit	Yes	0				
Highest production 100 feet below static water level	Yes	0				
Well located outside the 100 year flood	No	1				
Total System Construction Score		2	Moderate			
2. Hydrologic Sensitivity						
Soils are poorly to moderately drained	Yes	0				
Vadose zone composed of gravel, fractured rock or unknown	No	0				
Depth to first water > 300 feet	Yes	0				
Aquitard present with > 50 feet cumulative thickness	Yes	0				
Total Hydrologic Score		0	Low			
3. Potential Contaminate/Land Use - Zone 1A		**IOC Score**	**VOC Score**	**SOC Score**	**Microbial Score**	
Land Use Zone 1A	Dryland Agriculture	1	1	1	1	
Farm Chemical use	Unknown	2	0	0	0	
IOC, VOC, SOC or Microbial sources in Zone 1A	No	0	0	0	0	
Total Potential Contaminate Source/Land Use Score - Zone 1A		3	1	1	1	
Potential Contaminant/Land Use - Zone 1B						
Contaminant sources present (Number of Sources)	Yes	3	2	2	1	
Score = # Contaminant Sources X 2 (8 Points Maximum)		6	4	4	2	
Sources of Class II or III leacheable contaminants (4 Points Maximum)	Yes	1	0	0	0	
Zone 1B contains or intercepts a Group 1 Area	No	0	0	0	0	
Land use Zone IB	25 to 50% Non-Irrig. Ag	1	1	1	1	
Total Potential Contaminate Source/Land Use Score - Zone – 1B		8	5	5	3	
Potential Contaminant/Land Use - Zone II						
Contaminant sources present (Number of Sources)	Yes	2	2	2	0	
Sources of Class II or III leacheable contaminants	Yes	1	0	0	0	
Land use Zone II	25 to 50% Non-Irrig. Ag	1	1	1	0	
Total Potential Contaminate Source/Land Use Score - Zone – II		4	3	3	0	
Potential Contaminant/Land Use - Zone III						
Contaminant sources present (Number of Sources)	Yes	1	1	1	0	
Sources of Class II or III leacheable contaminants	Yes	1	0	0	0	
Is there irrigated agricultural lands that occupy > 50%	No	0	0	0	0	
Total Potential Contaminate Source/Land Use Score - Zone – III		2	1	1	0	
Cumulative Potential Contaminant/Land Use Score		17	10	10	4	
		moderate	low	low	Low	
4. Final Susceptibility Use Score		**5**	**4**	**4**	**4**	
5. Final Well Ranking		**Low**	**Low**	**Low**	**Low**	